



IN REPLY REFER TO:

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
1011 East Tudor Road
Anchorage, Alaska 99503-6199



AFES/MMM

INCIDENTAL TAKE AUTHORIZATION (IHA-17-01)

ISSUED: July 18, 2017
EXPIRES: November 15, 2017

Quintillion Subsea Operation, LCC (Quintillion) is authorized to take, by non-lethal Level B harassment, small numbers of Pacific walruses (*Odobenus rosmarus divergens*) and polar bears (*Ursus maritimus*) during the installation and testing of a fiber optic cable network in the State of Alaska and associated Federal waters during the 2017 open water season. This Incidental Harassment Authorization (IHA) is issued by the Regional Director–Alaska Region, U.S. Fish and Wildlife Service (Service) in accordance with section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA), as amended (16 U.S.C. 1371).

Activities are described in full in the following documents, incorporated here by reference:

- *Final Environmental Assessment for an Incidental Harassment Authorization for Pacific Walruses (Odobenus rosmarus divergens) and Polar Bears (Ursus maritimus) during the 2017 Quintillion Fiber Optic Cable Project.* Prepared by the Service, Marine Mammals Management Office (MMM), in Anchorage, Alaska (July 2017). Available at: <https://www.fws.gov/alaska/fisheries/mmm/iha.htm>.
- *Marine Mammals; Incidental Take during Specified Activities; Proposed Incidental Harassment Authorization for Pacific Walruses and Polar Bears in Alaska and Associated Federal Waters.* Published in the *Federal Register* (82 FR 25304, June 1, 2017). Available at: <https://www.gpo.gov/fdsys/pkg/FR-2017-06-01/pdf/2017-11381.pdf>.

Prohibitions

- 1) The taking, by incidental Level B harassment only, is limited to 250 Pacific walruses and 20 polar bears. The number of takes may not exceed these limits. The taking by Level A harassment, serious injury, or death is prohibited.
- 2) The taking of Pacific walruses and polar bears¹ whenever the required conditions, mitigation, monitoring, and reporting measures have not been fully implemented as required by this IHA, is prohibited.

¹ Throughout this document “Pacific walruses” means one or more Pacific walrus; “polar bears” means one or more polar bear. “Pacific walruses and polar bears” (or vice versa) means one or more of either animal.

Conditions

- 3) All vessel captains, operations managers, and protected species observers (PSOs or “observers”) must receive a copy of this IHA and maintain access to it for reference at all times during cable laying activities and associated project work. These personnel must understand, be fully aware of, and be capable of implementing the conditions of this IHA at all times during project work.
- 4) This IHA is valid only for activities associated with Quintillion’s proposed project as described in the Service documents cited on page 1. Changes to the proposed project without prior authorization may invalidate this IHA.
- 5) The only species authorized for taking by Level B harassment are Pacific walruses and polar bears. The taking of any other species under the Service’s jurisdiction or the taking of Pacific walruses and polar bears in a manner not expressly authorized by this IHA must be reported to the Service MMM immediately, but not later than 48 hours after the incident.
- 6) The following documents are approved and all provisions are incorporated into this IHA by reference unless otherwise noted herein or in Service documents cited on page 1.
 - *2017 Plan of Cooperation: Quintillion Subsea Operations Cable-Lay Project; Bering, Chukchi, and Beaufort Seas, Alaska* (November 2016; also referred to as the “POC”).
 - *Marine Mammal Monitoring and Mitigation Plan: Quintillion Subsea Cable –Lay Project, 2017* (January 2017; also referred to as the “4MP”).
- 7) All operators² are required to cooperate with the Service to monitor the impacts of the activity on Pacific walruses and polar bears and subsistence users.
- 8) At the discretion of the Service, all operators will allow Service personnel, or the Service’s designated representative, to board project vessels or visit project work sites for the purpose of monitoring impacts to Pacific walruses and polar bears and subsistence uses of those species at any time throughout project activities.
- 9) All operators are required to follow all applicable mitigation, monitoring, and reporting measures specified herein. Failure to do so may result in the modification, suspension, or revocation of this IHA.

Mitigation Measures

- 10) Avoidance
 - a) Quintillion has stated that project work will be conducted in waters no less than 30 kilometers (km) (19 miles [mi]) offshore whenever possible to avoid nearshore Pacific walrus concentrations, terrestrial haulouts, and coastal areas used by polar bears. Where cable end branches come ashore, landings will be conducted at right angles to the coastline, and work will be conducted immediately adjacent to the respective village (except at Oliktok Point where no village exists) to minimize nearshore activities and avoid areas where haulouts may occur. Project vessels and activities shall maintain at all times at least 1.6 km (1 mi) distance from known Pacific walrus terrestrial haulouts.

² “Operators” are all personnel operating under Quintillion’s authority, including all contractors and subcontractors.

- b) Quintillion has stated that project work will not occur within 50 km (31.1 mi) of Point Lay, where Pacific walrus haulouts are likely, or within 20 km (12.4 mi) of the Hanna Shoal Walrus Use Area (HSWUA as described in 78 FR 35364, June 12, 2013). Takes of Pacific walruses at any terrestrial haulout or within the HSWUA are not authorized by this IHA.
- c) Underwater sound levels will be minimized to the greatest extent practicable, for example by powering engines at the lowest possible level to complete work, and by choosing the smallest appropriate vessel where multiple options exist.
- d) Quintillion's operations must avoid the sea ice habitat of Pacific walruses and polar bears to the greatest extent practicable. Quintillion previously proposed to conduct ice management to gain access to Oliktok Point. Quintillion has since stated that it does not intend to conduct this work and will not operate in the vicinity of sea ice greater than 1/10 concentration. Takes of Pacific walruses or polar bears due to ice management activities are therefore not authorized by this IHA.

11) Adaptive Measures

- a) Operators shall work with PSOs to apply adaptive measures as specified herein, and shall recognize the authority of PSOs, up to and including stopping work, except where doing so poses a significant safety risk to vessels and personnel.
- b) Except as identified under 12(c):
 - (i) Project activities shall be conducted no closer than 805 meters (m) [0.5 mi] to Pacific walruses or polar bears;
 - (ii) All operators shall take reasonable precautions to avoid interactions with Pacific walruses and polar bears by changing speed or course or reducing sound production when these animals are observed within 805 m (0.5 mi). Changes in speed or course will be achieved gradually to avoid abrupt maneuvers whenever possible; and
 - (iii) Vessels will reduce speed to 9.3 km per hour (kph) (5.8 mi per hour [mph] or 5 knots [kn]) or less when Pacific walruses or polar bears are present, or when visibility drops due to inclement weather, rough seas, fog, or at night.
- c) During cable laying when the cable ship will not be able to alter course or speed to avoid marine mammals:
 - (i) Vessels shall maintain constant slow speeds less than 9.3 km per hour (5.8 mph or 5 kn); and
 - (ii) Operators will not begin work on a course that is likely to approach Pacific walruses or polar bears within 805 m (0.5 mi).
- d) Vessels may not be operated in such a way as to separate members of a group of Pacific walruses or polar bears from other members of the group.
- e) Activities shall not be conducted near haulouts; if Pacific walruses are observed on land, vessels will maintain a 1.6-km (1-mi) separation distance.
- f) In the event of unauthorized take (e.g. injury or death of Pacific walruses or polar bears due to project activities, including separation of mother from young, stampeding haulouts, injured animals, and animals otherwise in distress) Quintillion shall cease its activities (or reduce activities to the minimum level necessary to maintain safety) until such time that the Service has reviewed the circumstances of the unauthorized take, determined whether additional mitigation measures are

necessary to avoid further unauthorized taking, and notified Quintillion that it may resume project activities. This adaptive measure shall only apply when there is a reasonable suspicion that the unauthorized take is associated with project activities.

- g) Injured, dead, or otherwise distressed Pacific walruses or polar bears that the lead PSO determines are not associated with project activities (e.g., animals known to be from outside the project area, previously wounded animals, or carcasses with moderate to advanced decomposition or scavenger damage) must be reported to the Service within 48 hours of the discovery. Sufficient information, including photographs, video, or other documentation shall be provided to enable the Service to confirm the conclusion of the lead PSO.

12) Measures to Reduce Impacts to Subsistence Users. Quintillion shall:

- a) Plan routes in offshore waters away from nearshore subsistence harvest areas.
- b) Schedule operations to avoid conflict with subsistence harvest.
- c) Where cable faults are found, schedule operations and maintenance work, also called "O&M," to avoid local subsistence activities.
- d) Implement the POC (cited in Condition 6, page 2).
- e) Participate in the Automatic Identification System, commonly referred to as "AIS," for vessel tracking to allow the cable-laying fleet to be located in real time.
- f) Monitor local marine radio channels for communication with local vessel traffic.
- g) Distribute a daily report by email to all interested parties identified in the POC. Include in the report all vessel activities and locations, any potential hazards, and any subsistence and local activities to be avoided by Quintillion (as noted in the POC or identified by local subsistence users).
- h) Conduct community meetings in affected villages at the end of the cable installation process to discuss and summarize project completion. Quintillion will notify the Service when meetings occur and will provide a summary of information presented and input received.

Monitoring

13) Acoustic Monitoring

- a) Observers will monitor ensonification zones where the estimated received sound levels are 120 decibels (dB)³ or greater for the presence of approaching polar bears and Pacific walruses, and 160 dB or greater for polar bears and Pacific walruses that may be exposed to higher levels of sound⁴. Specific distances to be monitored will

³. All dB levels given herein are dB_{rms} re: 1 µPa. RMS refers to the root-mean-squared dB level, the square root of the average of the squared sound pressure level over a 1 second duration. All sound source levels herein are as measured at 1 m (3 ft) from the source.

⁴. The Service considers take by Level B harassment to occur whenever Pacific walruses are exposed to sound levels of 160 dB or greater or polar bears or walruses exhibit biologically significant changes in behavior indicating harassment (e.g., disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering). Quintillion has committed to monitoring the 120-dB and 160-dB isopleth and reporting the behaviors of all Pacific walruses and polar bears therein. We expect Quintillion to report all observations within the 160-dB zone and any Pacific walruses or polar bears exhibiting a behavioral response indicating harassment by project activities, regardless of location. The Service will review observation reports and make final determinations regarding take.

depend on the activity being conducted, but will not be less than 805 m (0.5 mi). Greater distances will be monitored during louder activities, including use of the sea plow and use of dynamic positioning thrusters.

- b) Observers will record the distance from the vessel to polar bears and Pacific walruses upon initial observation, the duration of the encounter, and the distance at last observation in order to monitor cumulative sound exposures. Observers will note any instances of animals lingering close to or traveling with vessels for prolonged periods of time.
- c) Sound source verification will be conducted during anchor handling by tugs and during cable laying with the vibro plow. Results will be used to calibrate the 120-dB and 160-dB ensonification zones for these activities.

14) Vessel-Based PSOs

- a) The duties of PSOs will include: watching for and identifying Pacific walruses and polar bears; recording observation details; documenting presence in any applicable ensonification zone; identifying and documenting potential harassment; and working with vessel operators to implement all appropriate adaptive mitigation measures.
- b) Observers will conduct vessel-based monitoring for Pacific walruses and polar bears while vessels are in transit and during all periods of project work except as described in part 15(c).
- c) Quintillion has determined that monitoring by PSOs is not feasible from the construction barge, the pontoon barge, or the small river tug due to the limited space aboard these vessels. Pacific walruses are unlikely to occur where these vessels are operating, but polar bears may be present. The vessel crews shall remain vigilant for polar bears and will implement all relevant measures specified in the 4MP if a polar bear is seen.
- d) A sufficient number of trained PSOs will be required to conduct monitoring during all project activities, with a maximum of 4 consecutive hours on watch and 12 hours of watch time per day per PSO.
- e) Monitoring by PSOs will be conducted during all hours of cable laying activity.
- f) Each vessel will have an experienced field crew leader to supervise the PSO team, which will contain individuals with prior experience as marine mammal monitoring observers, including experience specific to Pacific walruses and polar bears.
- g) New or inexperienced PSOs will be paired with an experienced PSO so that the quality of marine mammal observations and data recording is kept consistent.
- h) Resumes for candidate PSOs will be made available for the Service to review.
- i) All observers will have completed a training course designed to familiarize individuals with monitoring and data collection procedures.
- j) Fujinon 7 × 50 or equivalent binoculars, laser range finders (Leica LRF 1200 or equivalent), and night vision equipment will be provided to PSOs.
- k) All location, weather, and marine mammal observation data will be recorded onto a standard field form or database.
- l) Global positioning system and weather data will be collected at the beginning and end of a monitoring period and at every half-hour in between.

- m) Position data will also be recorded at the change of an observer or upon sighting a Pacific walrus or polar bear. Sufficient position data will be collected to enable the Service to map an accurate charting of vessel travel.
- n) Observation records of Pacific walruses and polar bears will include group size and composition (adults/juveniles), behavior, distance from vessel, presence in applicable ensonification zones, initial behavior, and any apparent reactions to the project activities. Sufficient data will be collected to enable the Service to evaluate the reactions of Pacific walruses and polar bears to project activities and any potential effects of project activities upon those animals.

Reporting Requirements

- 15) Quintillion must keep the Service informed of the impacts of authorized activities on Pacific walruses and polar bears by:
 - a) Notifying the Service at least 48 hours prior to commencement of activities;
 - b) Reporting any injury or death of a Pacific walruses and polar bears due to project activities immediately, but not later than 48 hours after the incident. See also parts 12(f) and 12(g).
 - c) Notifying the Service upon project completion or end of the work season.
- 16) Weekly reports will be submitted to the Service each Thursday during project activities. The reports will summarize project activities, monitoring efforts conducted by PSOs, results of sound source verification, the number of Pacific walruses and polar bears detected, the number exposed to sound levels greater than 160 dB, and descriptions of all behavioral reactions of Pacific walruses and polar bears to project activities.
- 17) A final report will be submitted to the Service within 90 days after the expiration of this IHA. The report will describe all project activities, monitoring efforts, and results. The report will include:
 - a) Monitoring summary (hours of monitoring, activities monitored, number of PSOs, and, if requested by the Service, the daily monitoring logs).
 - b) A summary of project activities completed and additional work, if any, yet to be done.
 - c) Analyses of the factors influencing visibility and detectability of marine mammals (e.g., sea state, number of observers, and fog/glare).
 - d) Discussion of location, weather, ice cover, sea state, and other factors affecting the presence and distribution of Pacific walruses and polar bears.
 - e) Numbers, locations (or distance and direction from the vessel), initial behaviors upon detection, and reactions to the vessel operations of all sighted Pacific walruses and polar bears.
 - f) Dates, times, vessel locations, heading, speed, weather, and sea conditions (including sea state and wind force), as well as description of the specific cable-laying activity occurring during observations of Pacific walruses and polar bears.
 - g) Estimated distance between project vessels and polar bears and Pacific walruses at closest approach and at the end of encounter.
 - h) Duration of encounters.

- i) An estimate of the number of Pacific walruses and polar bears that have been exposed to noise (based on visual observation) at received levels greater than or equal to 120 dB and 160 dB with a description of the responses (changes in behavior).
- j) Descriptions of uncertainty accompanying any numerical analyses, with uncertainty expressed by confidence limits, a minimum-maximum, posterior probability distribution, or another applicable method, with the exact approach to be selected based on the sampling method and data available.
- k) A description of the mitigation measures implemented during project activities and their observed effectiveness for minimizing impacts to Pacific walruses and polar bears.
- l) An analysis of the effects of Quintillion's operations on Pacific walruses, polar bears, and their availability for subsistence uses.
- m) Occurrence, distribution, and composition of all Pacific walrus and polar bear sightings, including date, water depth, numbers, age/size/gender (if determinable), group sizes, visibility, location of the vessel, and location of the animal (or distance and direction to the animal from the vessel) in the form of electronic database or spreadsheet files.
- n) A discussion of any specific Pacific walrus and polar bear behaviors of interest.
- o) An assessment of the effectiveness of the POC for preventing impacts to subsistence users of polar bears and Pacific walruses, including summaries of post-season meetings held with the cable-landing communities.

18) Notification of Injured or Dead Marine Mammals


- a) In the unexpected event that Quintillion's activity or any associated work causes the take of Pacific walruses or polar bears in a manner not authorized, including but not limited to stampeding of haulouts, abandonment of young, animals in acute distress, or injury or mortality (e.g., ship-strike), Quintillion shall report the incident to the Service immediately, but not later than 48 hours later. The report will include the following:
 - (i) Time, date, and location (latitude/longitude) of the incident;
 - (ii) Name and type of vessel involved;
 - (iii) Vessel's speed during and leading up to the incident;
 - (iv) Description of the incident;
 - (v) Description of all sound sources used in the 24 hours preceding the incident;
 - (vi) Water depth;
 - (vii) Environmental conditions (e.g., wind speed and direction, cloud cover, and visibility);
 - (viii) Description of all Pacific walrus and polar bear observations in the 24 hours preceding the incident;
 - (ix) Description of the animal(s) involved;
 - (x) Fate of the animal(s); and
 - (xi) Photographs or video footage of the animal(s) (if equipment is available).
 - (xii) Confirmation that project activities have stopped.

19) All reports shall be submitted to the Service MMM by email: fw7_mmm_reports@fws.gov.

Activities related to the monitoring described in this IHA do not require a separate scientific research permit issued under section 104 of the MMPA.

In accordance with section 7 of the Endangered Species Act of 1973 (ESA), intra-agency consultation with the Service's Fairbanks Field Office (FFO) for potential impacts of issuance of this IHA on threatened and endangered species and candidates for ESA listing was completed on July 7, 2017. The FFO concluded that issuance of the IHA is not likely to jeopardize the continued existence of the Pacific walrus and concurred with our determination this action is not likely to adversely affect polar bears and their critical habitat.

Should you have any questions regarding this IHA and the required terms and conditions, please contact Mr. Christopher Putnam at (907) 786-3844, or Ms. Kimberly Klein at (907) 786-3621, or by email at christopher_putnam@fws.gov or kimberly_klein@fws.gov



ACTING Regional Director, Region 7
U.S. Fish and Wildlife Service

7/18/17
Date